Tivanik®
Levofloxacin

Presentation
Tivanik® 250: Each film coated tablet contains Levofloxacin Hemihydrate INN equivalent to Levofloxacin 250 mg.

Tivanik® 500: Each film coated tablet contains Levofloxacin Hemihydrate INN equivalent to Levofloxacin 500 mg.

Therapeutic indications
In adults with infections of mild to moderate severity, levofloxacin tablets are indicated for the treatment of the following infections when due to levofloxacin-susceptible microorganisms:

- Acute sinusitis
- Acute exacerbation of chronic bronchitis
- Community-acquired pneumonia
- Complicated urinary tract infections including pyelonephritis
- Skin and soft tissue infections.

250 mg Tablets only:

- Uncomplicated urinary tract infections

Before prescribing levofloxacin, consideration should be given to national and/or local guidance on the appropriate use of fluoroquinolones.

Dosage and administration
Levofloxacin tablets are administered once or twice daily. The dosage depends on the type and severity of the infection and the sensitivity of the presumed causative pathogen.

Duration of treatment

The duration of therapy varies according to the course of the disease with a maximum duration of treatment of 14 days. As with antibiotic therapy in general, administration of levofloxacin tablets should be continued for a minimum of 48 to 72 hours after the patient has become afebrile or evidence of bacterial eradication has been obtained.

The following dose recommendations can be given for levofloxacin:

Dosage in patients with normal renal function (creatinine clearance > 50 ml/min)

Indication	Daily dose regimen (according to severity)	Duration of treatment
Acute sinusitis	500 mg once daily	10-14 days
Acute exacerbation of chronic bronchitis	250 mg to 500 mg once daily	7-10 days
Community-acquired pneumonia	500 mg once or twice daily	7-14 days
Uncomplicated urinary tract infections	250 mg once daily	3 days
Complicated urinary tract infections including pyelonephritis	250 mg once daily	7-10 days
Skin and soft tissue infections	250 mg once daily or 500 mg once or twice daily	7-14 days

≤

Dosage in patients with impaired renal function (creatinine clearance 50ml/min)

	Dose regimen		
	250 mg/24h	500 mg/24h	500 mg/12h
Creatinine clearance	first dose 250 mg	first dose 500 mg	first dose 500 mg
50 - 20 ml/min	then: 125 mg/24 h	then : 250 mg/24 h	then : 250 mg/12 h
19 - 10 ml/min	then : 125 mg/48 h	then : 125 mg/24 h	then : 125 mg/12 h
< 10 ml/min (including haemodialysis and CAPD)[1]	then: 125 mg/48 h	then : 125 mg/24 h	then : 125 mg/24 h

[1]No additional doses are required after haemodialysis or continuous ambulatory peritoneal dialysis (CAPD).

Dosage in patients with impaired liver function

No adjustment of dosage is required since levofloxacin is not metabolised to any relevant extent by the liver and is mainly excreted by the kidneys.

Dosage in elderly

No adjustment of dosage is required in the elderly, other than that imposed by consideration of renal function.

Contraindications
Levofloxacin tablets must not be used :

- in patients hypersensitive to levofloxacin, other quinolones, or any of the excipients,
- in patients with epilepsy,
- in patients with history of tendon disorders related to fluoroquinolone administration,
- in children or growing adolescents,
- during pregnancy,
- in breast-feeding women.

Special warnings and precautions for use
In the most severe cases of pneumococcal pneumonia levofloxacin may not be the optimal therapy.

Nosocomial infections due to P. aeruginosa may require combination therapy.

Clostridium difficile - associated disease: Diarrhoea, particularly if severe, persistent and/or bloody, during or after treatment with levofloxacin tablets, may be symptomatic of Clostridium difficile-associated disease, the most severe form of which is pseudo-membranous colitis. If pseudomembranous colitis is suspected, levofloxacin tablets must be stopped immediately and patients should be treated with supportive measures specific therapy without delay (e.g. oral vancomycin). Products inhibiting the peristalsis are contraindicated in this clinical situation.

Patients predisposed to seizures: Levofloxacin tablets are contraindicated in patients with a history of epilepsy and, as other quinolones, should be used with extreme caution in patients predisposed to seizures, such as patients with pre-existing central nervous system lesions, concomitant treatment with fenbufen and similar non-steroidal anti-inflammatory drugs or with drugs which lower the cerebral seizure threshold, such as theophylline.

Patients with renal impairment: Since mainly the kidneys excrete levofloxacin, the dose of levofloxacin should be adjusted in patients with renal impairment.

Interaction with other medicinal products
Iron salts, magnesium- or aluminium-containing antacids

Levofloxacin absorption is significantly reduced when iron salts, or magnesium- or aluminium-containing antacids are administered concomitantly with levofloxacin tablets. It is recommended that preparations containing divalent or trivalent cations such as iron salts, or magnesium- or aluminium-containing antacids should not be taken 2 hours before or after levofloxacin tablet administration. No interaction was found with calcium carbonate.

Other relevant information

Clinical pharmacology studies were carried out to investigate possible pharmacokinetic interactions between levofloxacin and commonly prescribed drugs. The pharmacokinetics of levofloxacin was not affected to any clinically relevant extent when levofloxacin was administered together with the following drugs: calcium carbonate, digoxin, glibenclamide, ranitidine, warfarin.

Pregnancy and lactation
Pregnancy

Reproductive studies in animals did not raise specific concern. However in the absence of human data and due to the experimental risk of damage by fluoroquinolones to the weight-bearing cartilage of the growing organism, levofloxacin tablets must not be used in pregnant women.

Lactation

In the absence of human data and due to the experimental risk of damage by fluoroquinolones to the weight-bearing cartilage of the growing organism, levofloxacin tablets must not be used in breast-feeding women.

Commercial Pack
Tivanik® 250 : Each box contains 5X6 tablets in Alu-Alu Blister Pack.

Tivanik® 500 : Each box contains 5X4 tablets in Alu-Alu Blister Pack.

Manufactured by :
Silva
Pharmaceuticals Limited
Maijdee, Noakhali, Bangladesh